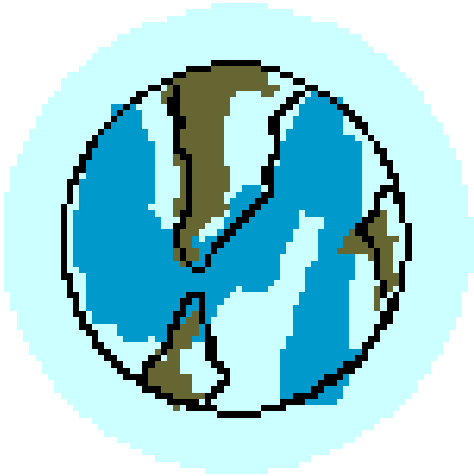
Semi Permanent Pressure Systems

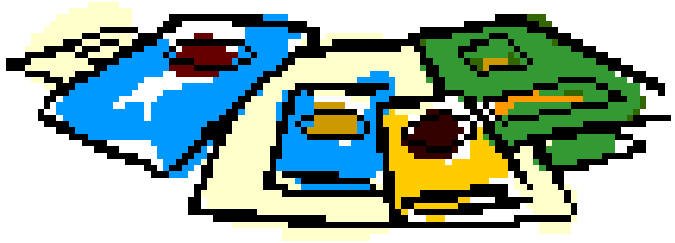
MSgt Silva

November 2001

Overview

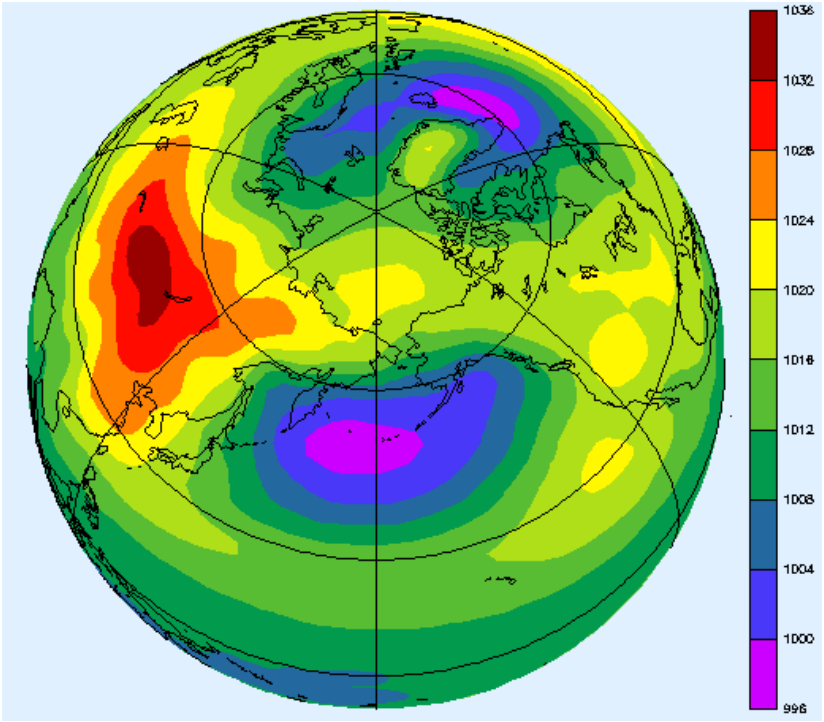
- Review of pressure systems
- Features
- Warm Core
- Cold Core
- Highs
- Lows





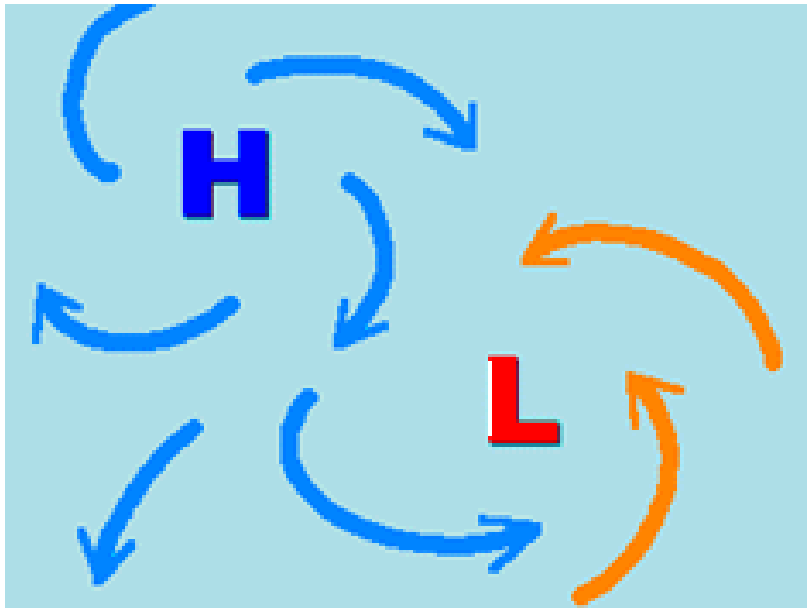
Semi-permanent pressure sy

- Climatological Sea Level Pressure
- Most pronounced in January and July
- Persist throughout the year
- Centers move only slightly
- Associated ridges and troughs move

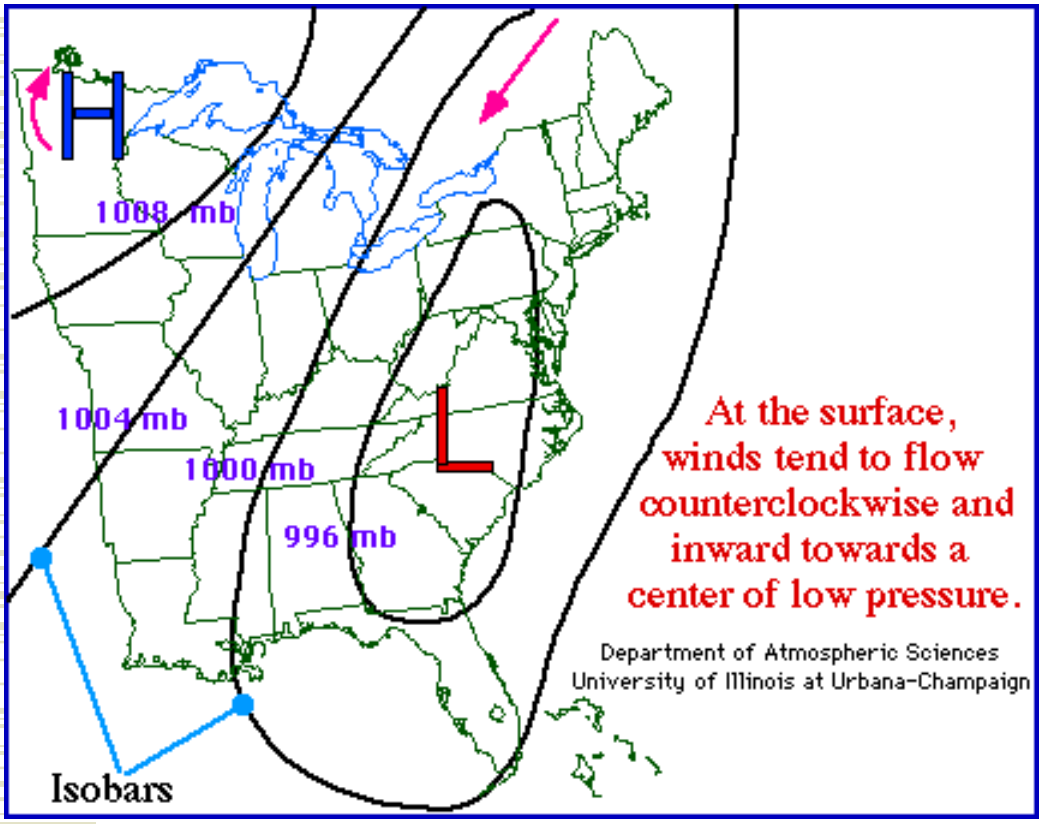


Types of Pressure Systems

- **Anticyclones or Highs**
  - Air moves from areas of high to lower pressure
  - Air circulates clockwise
  - Outward flow
  - Deflected to the right because of the Coriolis effect (Northern Hemisphere)
  - Dry and fair weather



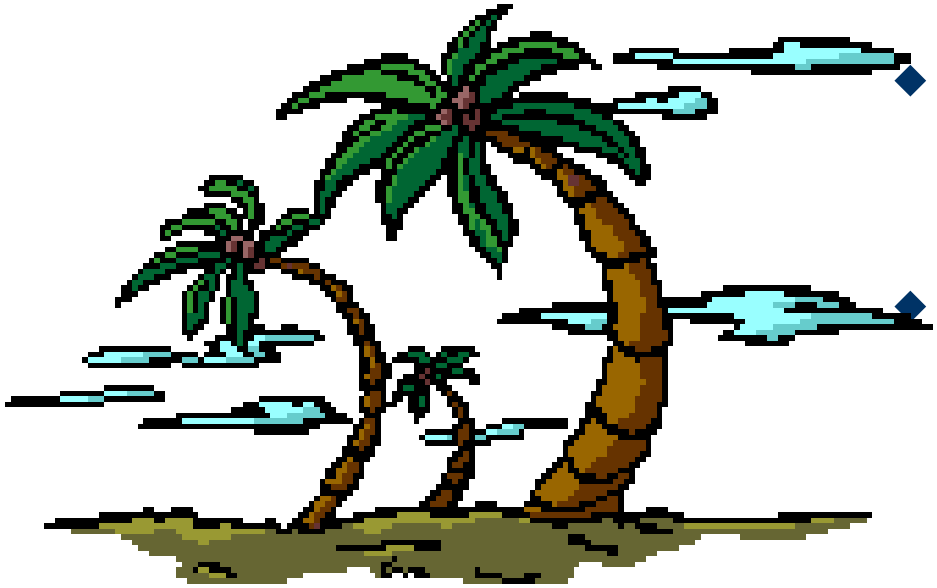
Types of Pressure Systems



- **Cyclones or Lows**
  - Air circulates counterclockwise
  - Deflected to the right in the Northern Hemisphere
  - Air ascends near the center of the low
  - Stormy with precipitation

Warm Core

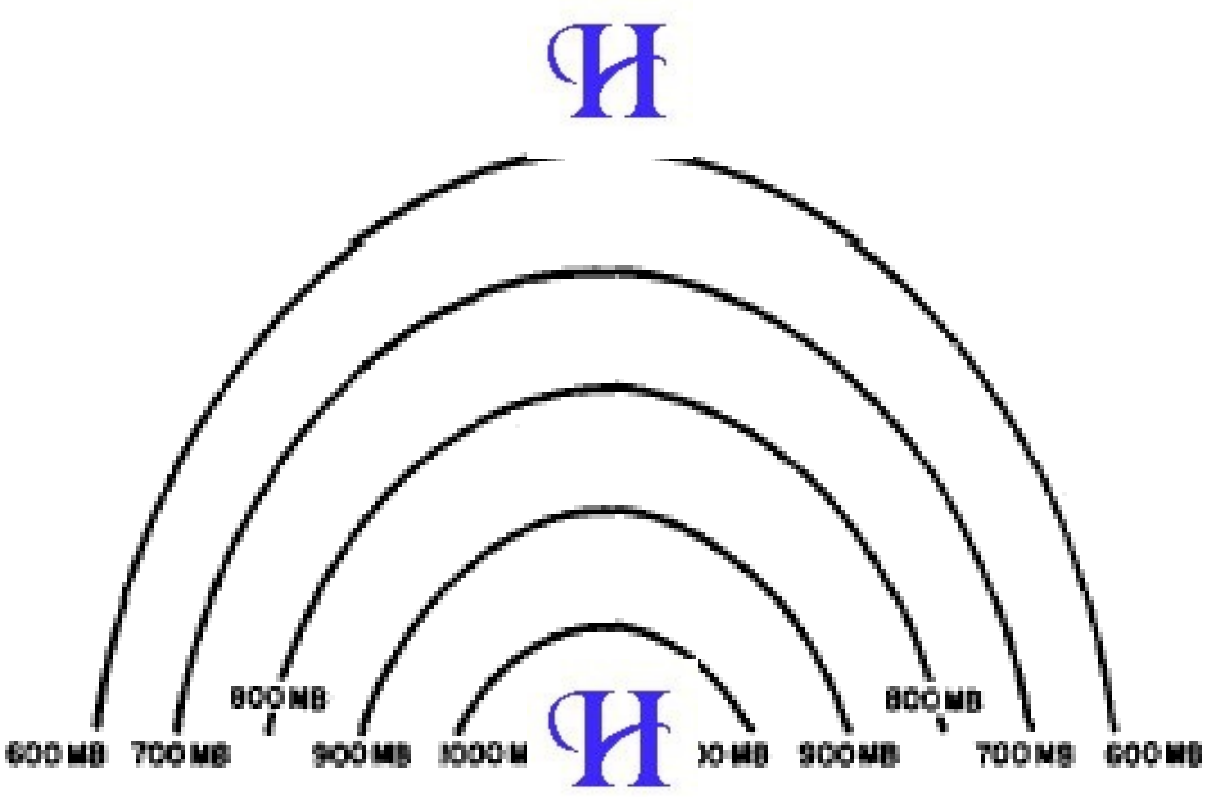
- Subtropical Ridges
  - Bermuda-Azores
  - Pacific High
- Equatorial Trough (ITCZ)
- Thermal Lows



Subtropical Ridges

- 25^{o} – 35^{o} N
  - Bermuda-Azores High
  - Pacific High
  - Predominate all year

Vertical Profile
warm core high



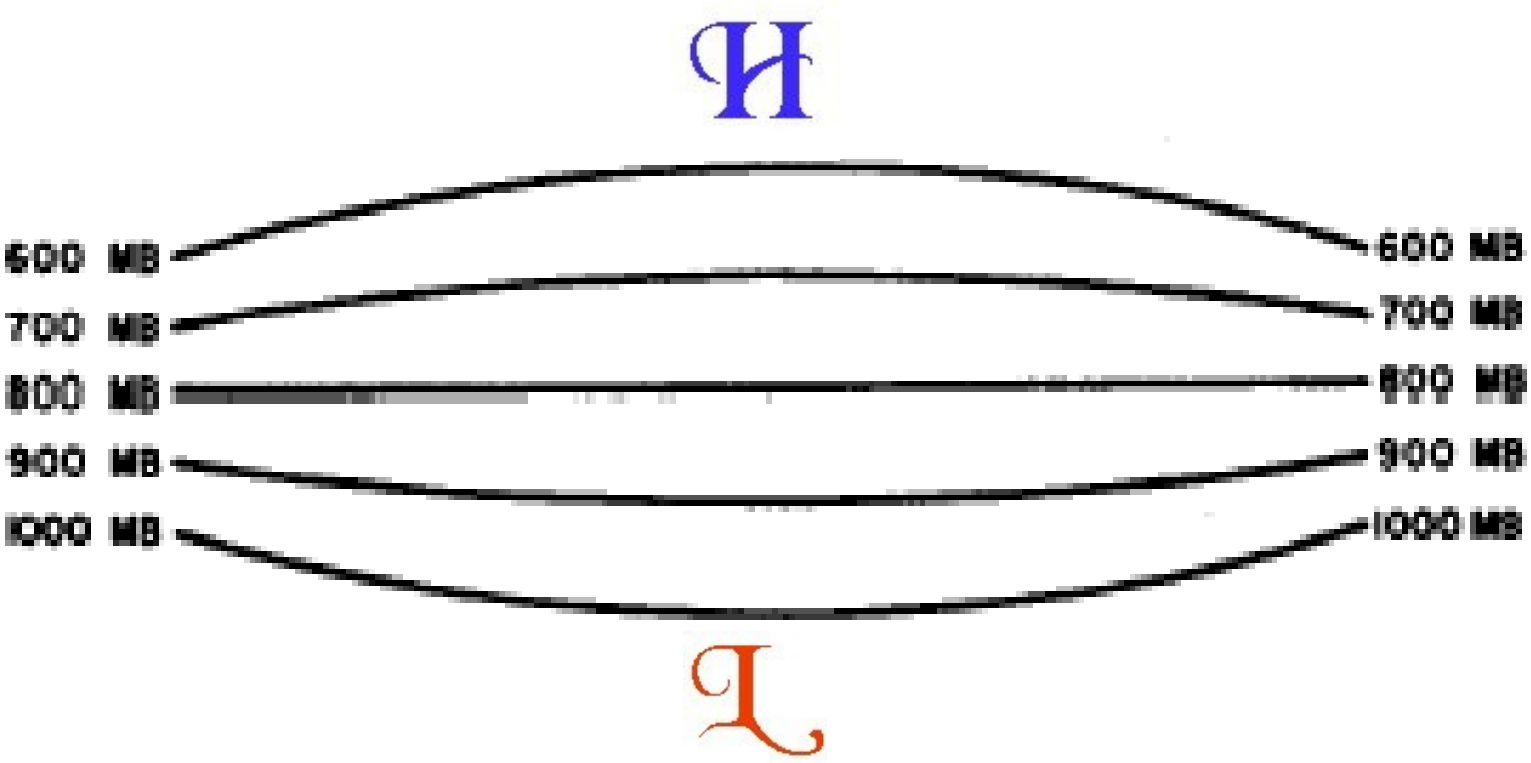
Equatorial Trough or ITCZ

Thermal Lows

- Summer feature
- India (monsoon low)
- Desert Southwest of US
- Iranian Plate

Vertical Profile

warm core low

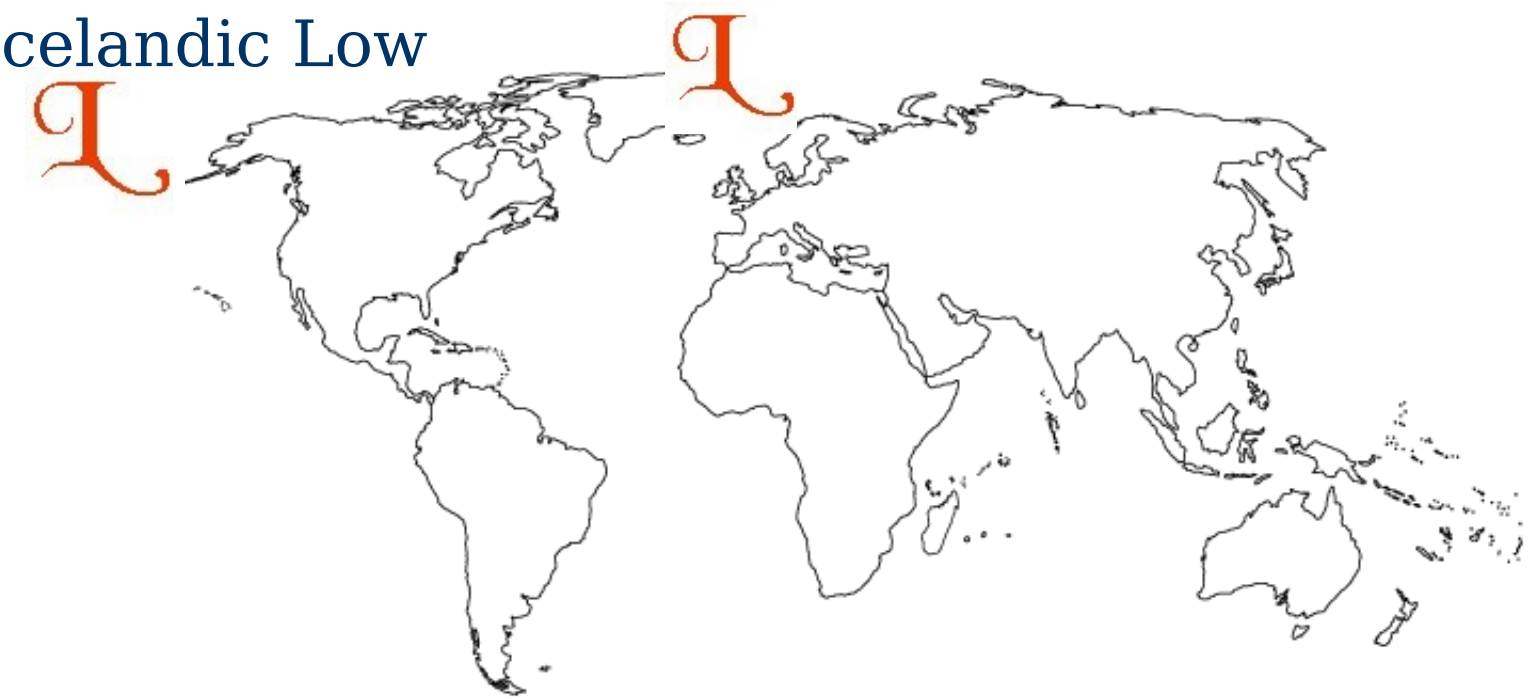


Cold Core

- Subpolar Lows
  - Icelandic Low
  - Aleutian Low
- Continental Highs
  - Siberian High

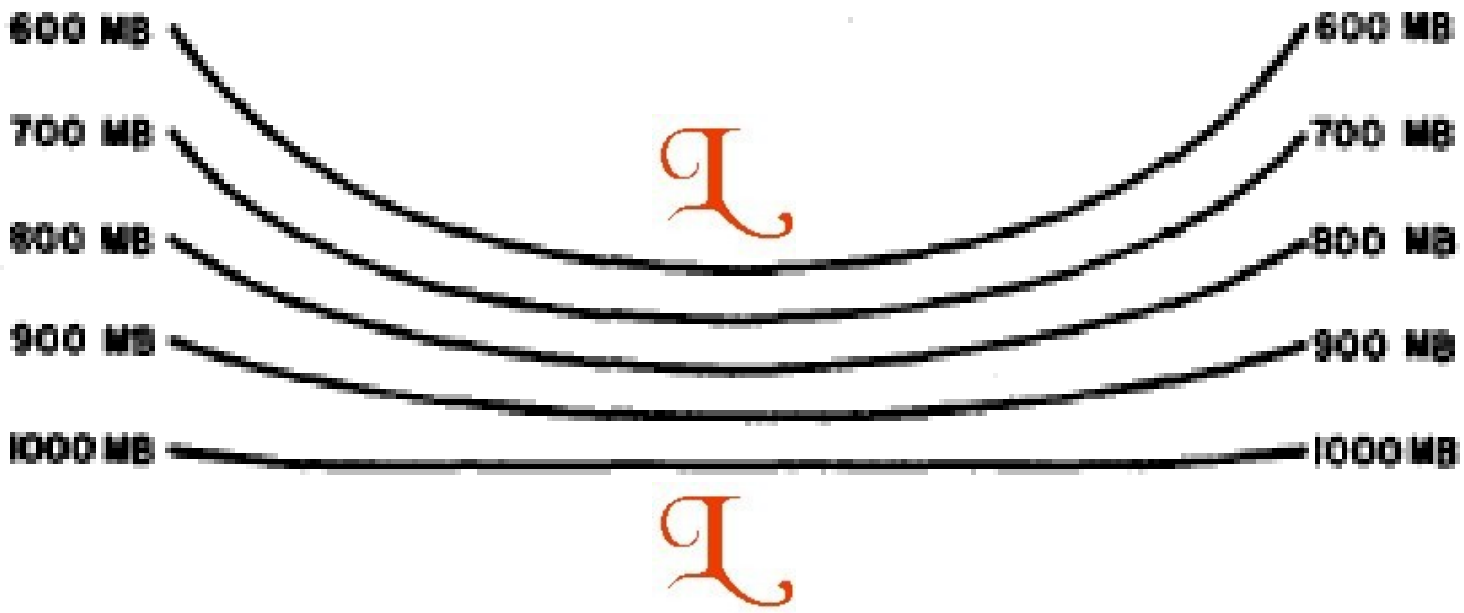
Subpolar Lows

- 40° – 65° N
  - Mainly Winter
  - Aleutian Low
  - Icelandic Low



Vertical Profile

cold core low

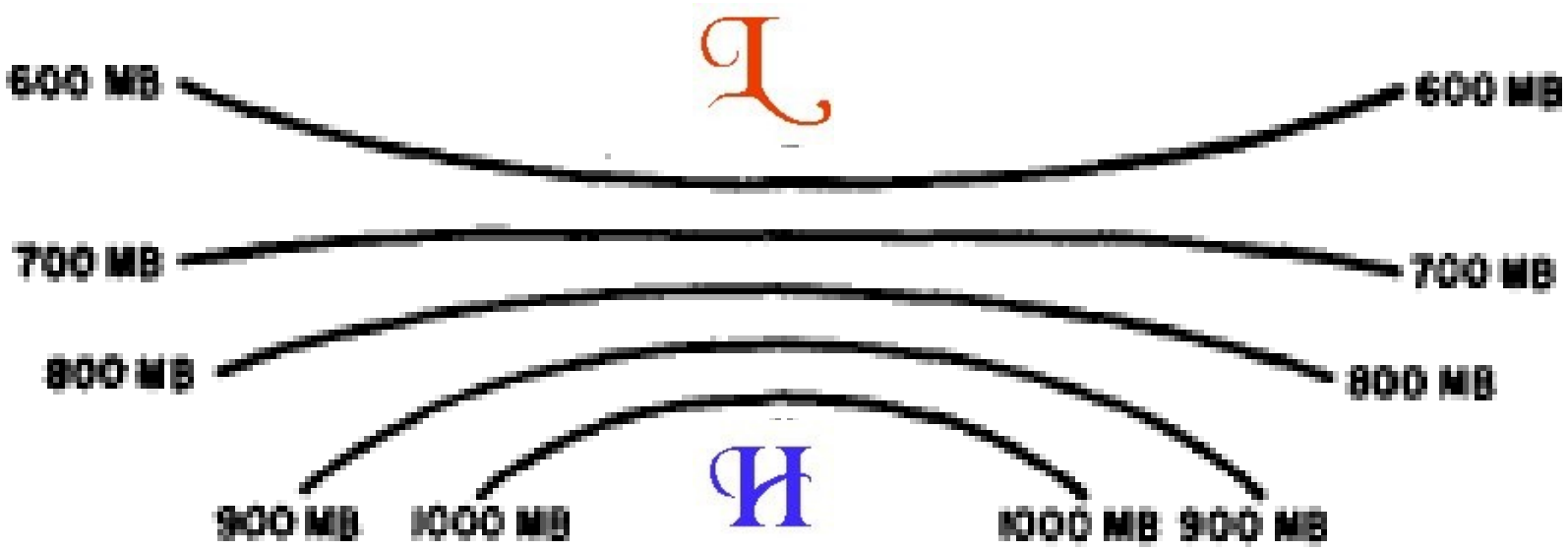


Siberian High

- 40º – 55º N
  - Siberian High
  - Due to intense cooling of land

Vertical Profile

cold core high



Questions ?